**Chapter 3 Diagnostic Review**

Directions

* Start by completing all problems in Column C.
* When you are complete check your answers. Highlight the box of a problem you got incorrect.
* If you were incorrect, correct the problem and then do the corresponding problem from Column A.
* Check problems in Column A then, repeat for Column B if needed.
* Finally you should complete all problems in Column D.

*You will know what sections you need to prepare most for before the test based on the amount of highlighting. If you were incorrect in any problems in Column B, you should do additional problems to prepare for tomorrow’s test. They are found in the back of your book on p. \_\_\_\_\_\_\_\_\_\_\_.*

Column A Column B Column C Column D

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Write, solve and/or apply a linear equation (including problem situations). M11.D.2.1.3 | | | |
|  | ***Solve and check.*** | | | |
| **3-1** | 5x – 8 = 12 | -2q -5 = -11 |  | A state park charges admission of $6 per person plus $3 for parking. Jo paid $27 when her car entered the park. Write and solve an equation to find the number of people in Jo’s car. Be sure to explain what your variable represents. |
|  | Write, solve and/or apply a linear equation (including problem situations). M11.D.2.1.3 | | | |
|  | ***Solve. If the equation is an identity or had no solution, write identity or no solution.*** | | | |
| **3-2 & 3-3** | -3(3 – 10y) = 12 | x – (4 – x) = 0 | 3(2t – 6) = 2(3t -9) | The width of a rectangle is 6cm less than the length. The perimeter is 72cm. Write and solve an equation to find the dimensions of the rectangle. |
|  | *Identify and/or use proportional relationships in problem solving settings. M11.A.2.1.3* | | | |
|  | ***Solve each.*** | | | |
| **3-4** |  |  |  | The scale on a map is  1 in. to 15 miles. The distance between two cities is 25 miles. Find the distance in inches between the two cities. |
|  | *Identify and/or use proportional relationships in problem solving settings. M11.A.2.1.3* | | | |
|  | ***In the figure at the below, ΔDEF~ ΔQRS*** | | | |
| **3-5** |  | Find RS | Find QR | The ratio of the areas of the two triangles is \_\_\_\_\_\_\_\_\_? |
|  | *Solve problems using operation with rational numbers including rates and percents (single and multi-step and multiple procedure operations)(e.g. distance, work and mixture problems, etc.). M11.A.2.1.1* | | | |
|  | *Write, solve and/or apply a linear equation (including problem situations). M11.D.2.1.3* | | | |
|  | ***Write and Solve an equation for each situation.*** | | | |
| **3-6** | The great Soto bridge in Japan is about 7.6 mi long. How long would it take you to cross the bridge if you were walking at 4 mi/h? | The sum of four consecutive integers is –262. Find the four integers. | The sum of three consecutive odd integers is 279. Find the three integers. | A supertanker left port traveling north at an average speed of 10 knots. Two hours later a cruise ship leaves the same port, heading south at an average speed of 18 knots. How many hours after the cruise ship sails will the two ships be 209 nautical miles apart? (1 knot = 1 nautical mi/h) |
|  | *Solve problems using operation with rational numbers including rates and percents (single and multi-step and multiple procedure operations)(e.g. distance, work and mixture problems, etc.). M11.A.2.1.1* | | | |
|  | ***Find each percent of change.*** | | | |
| **3-7** | $75,000 to $85,000 | 20 ft to 15 ft | 60 h to 40 h | A $1500 computer is on sale for $1275. Find the percent of change and determine whether the change is an increase or decrease. |
|  | *Find the square root of an integer to the nearest tenth using either a calculator or estimation. M11.A.1.1.1* | | | |
|  | ***Tell whether each expression is rational or irrational, then find the value of each expression, rounding to the nearest hundredth if necessary.*** | | | |
| **3-8** | - |  |  | What is the length of each side of a square garden with an area of 70 ? |
|  | *Solve problems using operation with rational numbers including rates and percents (single and multi-step and multiple procedure operations)(e.g. distance, work and mixture problems, etc.). M11.A.2.1.1* | | | |
|  | ***Find the missing side of the right triangle.*** | | | |
| **3-9** | a= 3, b = 5, find c. | a = 11, b= ?,  c = 14 | a = ?, b = 24,  c = 25 | Determine whether the given lengths can be side of a right triangle.  16, 34, 30 |

Standards Assessed

* Find the square root of an integer to the nearest tenth using either a calculator or estimation. M11.A.1.1.1
* Solve problems using operation with rational numbers including rates and percents (single and multi-step and multiple procedure operations)(e.g. distance, work and mixture problems, etc.). M11.A.2.1.1
* Identify and/or use proportional relationships in problem solving settings. M11.A.2.1.3
* Write, solve and/or apply a linear equation (including problem situations). M11.D.2.1.3